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**Comment on the proposed conservation of the specific name of *Nemotois violellus* Herrich-Schaeffer in Stainton, 1851 (currently *Nemophora violella*; Insecta, Lepidoptera)**

(Case 3188; see BZN 59: 30–33)

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1. I am not in agreement with the proposal put forward in this application. Kozlov's proposal to suppress the name *Tinea cupriacella* Hübner, 1819 in order to conserve the name of *Nemotois violellus* Herrich-Schaeffer in Stainton, 1851 (which he considers to be a junior synonym of *T. cupriacella*) centres around three problems. These are: (i) the status of Hübner's name, (ii) the parthenogenetic nature of the species currently known as *Nemophora cupriacella* (Hübner, 1819), and (iii) the supposed 'confusion' around the name *T. cupriacella*.

2. I agree with any action that will conserve the name *Nemophora violella*, but strongly disagree with the proposal to suppress the well-known name *Nemophora cupriacella* for the moth species that feeds on several Dipsacaceae species. The suppression of a name in use for 180 years as a result of re-examination of a very old plate does not follow the spirit of the Code. Thus, I would like to support the alternative proposal, indicated by Kozlov (BZN 59: 32), which involves the designation of a neotype for *Tinea cupriacella*. My argument in support of this approach follows the three points listed above.

**The status of Hübner's name**

3. *Tinea cupriacella* was made available only by an illustration of the moth. Type material is not known to exist and Hübner provided no description of the species. The moth shown on the colour plate is clearly an adelid moth, and resembles species of the genus *Nemophora*. The long antennae indicate that it is a male, and its identification by Kozlov as the species currently called *Nemophora violella* could be correct. However, the figure could also represent one of a number of related species, including the (unknown) male of *N. cupriacella* of present authors. All later authors based the identity of *N. cupriacella* on the works of Herrich-Schaeffer (1854, p. 96) and Zeller (1853, p. 57), who described and distinguished both *N. cupriacella* and *N. violella* (see below).

**The parthenogenetic nature of the species currently known as *Nemophora cupriacella* (Hübner, 1819)**

4. The parthenogenetic nature of *N. cupriacella* was not recognized before 1978 (Suomalainen, 1978). However, many earlier authors mentioned that they only knew

females of this species (e.g. Zeller, 1853 (p. 57); Herrich-Schaeffer, 1854 (p. 97); Frey, 1856 (p. 83); Stainton, 1859 (p. 301); Wocke 1874 (p. 47); Sorhagen, 1886 (p. 155); Disqué, 1901 (p. 201) and Razowski, 1978 (p. 83)).

5. Parthenogenesis is a relatively rare phenomenon in the Lepidoptera and best known in the family PSYCHIDAE (see Vandel, 1931; Robinson, 1971; Suomalainen, Lokki & Saura, 1979). At the moment there is no doubt that *N. cupriacella* is parthenogenetic in north and northwest Europe (see Suomalainen, 1978; K. Bland (pers. comm.); van Nieuwerkerken, 1993). However, no recent data are available for southern parts of Europe.

6. In many cases Lepidopteran parthenogenesis is not a universal condition (see Vandel, 1931; Robinson, 1971); bisexual populations may occur in parts of the distribution area. Even in fully parthenogenetic populations, males occur now and then as the result of a 'genetic defect'. Such males have been reported in the otherwise parthenogenetic nepticulid *Ectoedemia argyropeza* (Zeller, 1839) (see Bond & van Nieuwerkerken, 1987) and *Stigmella microtheriella* (Stainton, 1854) (see Laštůvka & Laštůvka, 1997 (p. 39); L. Aarvik, pers. comm.) and in the psychid *Luffia ferchaultella* (Stephens, 1828) (see Henderickx, 1982). Therefore, it is possible that male specimens of *N. cupriacella* do occur from time to time.

7. So even if *N. cupriacella* is a parthenogenetic species, it is still possible that Hübner had a male specimen either from an as yet unknown bisexual population or an incidental male from a parthenogenetic population.

#### **The supposed 'confusion' around the name *T. cupriacella***

8. Kozlov's case is built on the alleged confusion around the name *T. cupriacella*. Actually, the usage of both the name *N. cupriacella* and the name *N. violella* has been relatively consistent since 1853.

9. Many authors could not understand why they were unable to find male *N. cupriacella* (e.g. Zeller, 1853 (p. 57); Herrich-Schaeffer, 1854 (p. 97)). It is striking that both these authors got their males from southern Europe. This could be an indication that bisexual populations existed there. On the other hand, they may have misidentified their specimens. Later authors (e.g. Heath & Pelham-Clinton, 1976; Küppers, 1980) mismatched several taxa in search for males of *N. cupriacella* and provided incorrect and confusing descriptions and illustrations of male specimens and their genitalia. However, this was not the case for the females.

10. According to Kozlov, the only feature that has been used consistently to distinguish between *N. cupriacella* and *N. violella* is their respective larval foodplants. However, there are two other characters that immediately separate the females of both species. These are the colour of the hairs on the labial palps and the length of the palps themselves. *N. cupriacella* has predominantly yellow hairs on longer palps (Figure 1). *N. violella* has completely black hairs on shorter palps (Figure 2). More interesting is that both Zeller (1853, pp. 58, 62) and Herrich-Schaeffer (1854, p. 97) use these characters in their descriptions, as do some of the later authors (e.g. Heinemann, 1870 (pp. 83–84); Snellen, 1882 (p. 498), Lycklama à Nijeholt, 1929 (p. 49)). To cite the last author (translated from Dutch): 'Snellen [in a paper in 1889] . . . considered both to be one species, but he did mention the clear difference in size and hairs of the palps given by Zeller'. Most other authors overlooked this character,

although Küppers (1980, p. 330) mentioned it for *N. cupriacella*, but not for *N. violella*.

11. Kozlov's remark that all authors relied on earlier sources for information relating to the larval foodplants of these species is overstated. Several authors did rear the species and could separate them successfully (e.g. Disqué, 1901 (p. 206); Stange in Disqué, 1901 (p. 206); Lycklama à Nijeholt, 1929 (p. 49); Lycklama à Nijeholt, 1932 (p. x)). The records of *Sedum* as hostplant for *N. cupriacella* go back to the record by Schmid (cited in Rössler, 1867) who found overwintering larvae on *Sedum*. However, *Sedum* is not the primary hostplant of *N. cupriacella*; its early stages are confined to flowers of Dipsacaceae. The early stages of *N. violella* are confined to flowers of *Gentiana* and *Gentianella*. In later larval instars they live on the soil, feeding on the basal leaves of their host plants and probably also on the leaves of other plants. Most current fieldworkers can easily recognise both species by their associated hostplants.

12. In conclusion, the identity of the figure labelled as *Tinea cupriacella* by Hübner cannot be unambiguously identified, but two taxonomic species known as *N. cupriacella* and *N. violella* have been recognised during the last 150 years (at least in female specimens) on the basis of Herrich-Schaeffer's and Zeller's descriptions. Many authors have misidentified their material, particularly male specimens, because the species are similar and males probably absent in *Nemophora cupriacella*. However, nomenclatural changes should not be used to cover up misidentifications and poor taxonomy. The names *N. cupriacella* and *N. violella* are well known amongst northern European lepidopterists and have in recent years also been used in nature conservancy reports (van Nieukerken, 1993). Change of one of these names into a completely new one as proposed by Kozlov should not be endorsed as it will upset nomenclatural stability.

13. I therefore propose that the existing usage of the names *N. cupriacella* and *N. violella* be maintained by designating a neotype for *T. cupriacella*. The most suitable specimen for the neotype is deposited in The Natural History Museum, London. The specimen has the following data labels: ♀, POLAND: Glogów; 'Scab. succisa | Torfwiesen | Glogau | Zeller 1/ [18]53'; 'Stainton Coll. | Brit. Mus. | 1893-134'.

14. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the nominal species *Tinea cupriacella* Hübner, 1819 and to designate the specimen proposed in para. 13 above as neotype;
- (2) to place on the Official List of Specific Names in Zoology the following names:
  - (a) *cupriacella* Hübner, 1819, as published in the binomen *Tinea cupriacella* and as defined by the neotype designated in (1) above;
  - (b) *violellus* Herrich-Schäffer in Stainton, 1851, as published in the binomen *Nemotois violellus*.

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Figure 1.

Figure 1. *Nemophora cupriacella* (Hübner), female palps seen from lateral view: many yellow hairs and some black ones, relatively long palps (compared with eye width). Netherlands, Denekamp, 20.vii.1992, netted around *Succisa pratensis*, E.J. van Nieuwerkerken.



Figure 2.

Figure 2. *Nemophora violella* (Herrich-Schaeffer), female palps seen from lateral view: only some black hairs, shorter palps (compared with eye width). Netherlands, Staverden, 20.vii.1992, netted on wet heathland near *Gentiana pneumonanthe*, E.J. van Nieuwerkerken.